

(19) World Intellectual Property  
Organization  
International Bureau



553 683

(43) International Publication Date  
28 October 2004 (28.10.2004)

PCT

(10) International Publication Number  
**WO 2004/092387 A1**

(51) International Patent Classification<sup>7</sup>: C12N 15/62,  
7/01, 15/63

(21) International Application Number:  
PCT/AU2004/000511

(22) International Filing Date: 16 April 2004 (16.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2003901876 17 April 2003 (17.04.2003) AU

(71) Applicant (for all designated States except US): HEP-  
GENICS PTY LTD [AU/AU]; Level 1, Suite 2, 1233 High  
Street, Armadale, Victoria 3143 (AU).

(72) Inventors; and

(75) Inventors/Applicants (for US only): ANDERSON,  
David, Andrew [AU/AU]; 62 Davies Street, Brunswick,  
Victoria 3056 (AU). GRGACIC, Elizabeth, Vera, Lud-  
milla [AU/AU]; 69/682 Nicholson Street, Fitzroy North,  
Victoria 3068 (AU).

(74) Agents: HUGHES, E. John, L. et al.; Davies Collison  
Cave, 1 Nicholson Street, Melbourne, Victoria 3000 (AU).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Euro-  
pean (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,  
GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,  
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,  
ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: VIRAL VECTORS EXPRESSING FUSION OF VIRAL LARGE ENVELOPE PROTEIN AND PROTEIN OF INTER-  
EST

(57) Abstract: The present invention provides a virus-like particle (VLP) comprising i) a polypeptide comprising a polypeptide of interest (POI) and at least a particle-associating portion of a large envelope (L) polypeptide of an avian hepadnavirus or a functional derivative or homolog thereof, and ii) a small envelope (S) polypeptide of an avian hepadnavirus or a functional derivative or homolog thereof. By introducing one or more POIs into the L polypeptide, the POI is translocated along with L into a particle structure made up primarily of S polypeptide. The present invention furthermore provides methods for producing a recombinant virus-like particle.

WO 2004/092387 A1